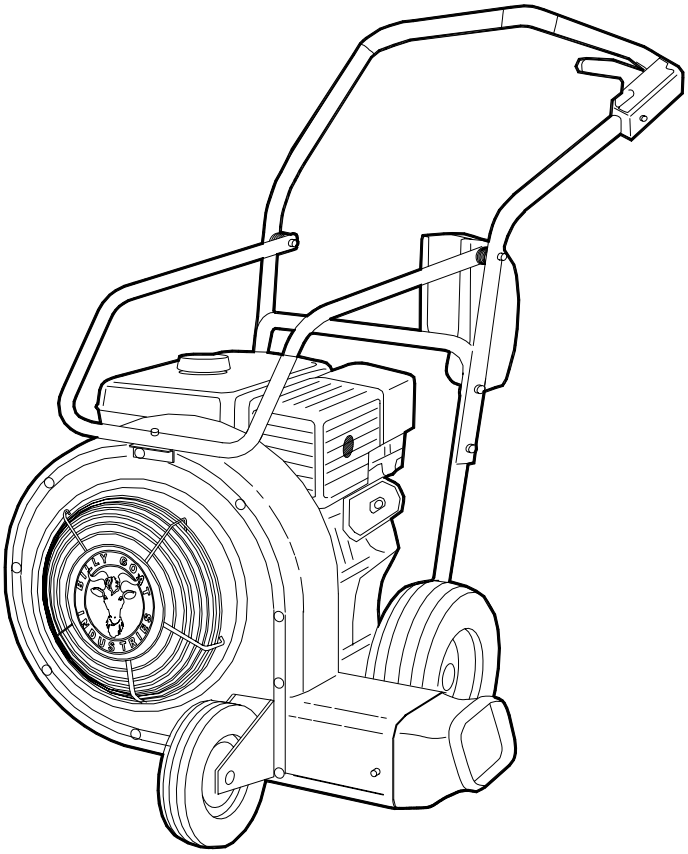
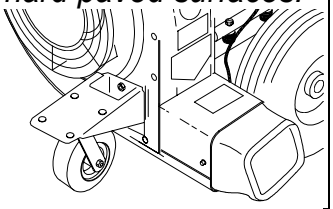


Patent 6253416

BILLY GOAT QB554HC BLOWER
Owner's Manual

Accessories

CASTER KIT
To improve maneuverability on hard paved surfaces. 
P/N 430291

ABOUT THIS MANUAL

THANK YOU for purchasing a BILLY GOAT ® *QB Blower*. Your new machine has been carefully designed and manufactured to provide years of reliable and productive service. This manual provides complete operating and maintenance instructions that will help to maintain your QB Blower in top running order. Read this manual carefully before assembling, operating, or servicing your equipment.

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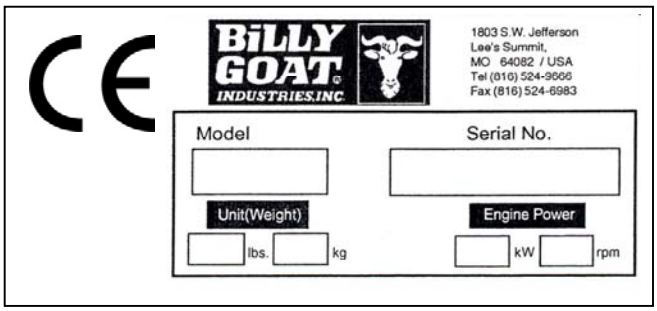
SERIAL PLATE DATA

Record the model number, serial number, date of purchase, and where purchased.

Purchase Date: _____

Purchased From: _____



Specifications QB554HC

Engine: HP	5.0 HP (3.73 Kw)
Engine: Model	GC160AQHA
Engine: Type	HONDA OHC
Engine: Fuel Capacity	2.1 qt. (2.0L)
Engine: Oil Capacity	0.63 qt. (0.6L)
Total Unit Weight:	98# (44.5 Kg)
Overall Length:	51.75" (1.31m)
Overall Width	28.5" (0.72m)
Overall Height	39" (0.99m)
Lwa at operator position	106dB(a)
Vibration at operator position	.74 g (7.3 m/s^2)

GENERAL SAFETY INSTRUCTIONS and SYMBOLS

The safety symbols shown below are used throughout this manual. You should become familiar with them before assembling, operating, or servicing this equipment.

This symbol indicates important information that will prevent injury to yourself or others.

This symbol indicates ear protection is recommended when operating this equipment.

This symbol indicates eye protection is recommended when operating this equipment.

This symbol indicates gloves should be worn when servicing this equipment.

This symbol indicates that this manual and the engine manufacturer's manual should be read carefully before assembling, operation, or servicing this equipment.

This symbol indicates important information that will prevent damage to your BILLY GOAT ® QB Blower.

This symbol indicates the engine oil level should be checked before operating this equipment.

Read and make sure you thoroughly understand the following safety precautions before assembling, operating or servicing this equipment:

READ this manual and the engine manufacturer's manual carefully before assembling, operating, or servicing this equipment.

EAR PROTECTION is recommended when operating this equipment.

EYE PROTECTION is recommended when operating this equipment.

BREATHING PROTECTION is recommended when operating this equipment.

EXHAUST from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

DO NOT operate this equipment on any unimproved forested, brushy, or grass covered land unless a spark arrester is installed on the muffler as required by Section 4442 of the California Public Resources Code. The arrester must be maintained in good working order. Other states may have similar laws. Federal laws apply on federal lands.

DO NOT run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and possibly fatal poison.

WARNING:

DO NOT run this equipment indoors or in any poorly ventilated area. Refueling outdoors is recommended.

DO NOT refuel this equipment while the engine is running. Allow engine to cool for at least two minutes before refueling.

DO NOT store gasoline near an open flame.

DO NOT remove gas cap while engine is running.

DO NOT start or operate engine if strong odor of gasoline is present.

DO NOT start or operate engine if gasoline is spilled. Move equipment away from spill until gasoline has completely evaporated.

DO NOT smoke while filling the fuel tank.

DO NOT check for spark with spark plug or spark plug wire removed. Use an approved spark tester.

DO NOT operate engine without a muffler. Inspect muffler periodically and replace if necessary. If equipped with muffler deflector, inspect deflector periodically and replace if necessary.

DO NOT operate engine with grass, leaves or other combustible material near the muffler.

DO NOT touch muffler, cylinder, or cooling fins when hot. Contact with hot surfaces may cause severe burns.

DO NOT leave equipment unattended while in operation.

DO NOT park equipment on a steep grade or slope.

DO NOT operate equipment with bystanders in or near the work area.

DO NOT allow children to operate this equipment.

DO NOT operate equipment with guards removed.

DO NOT operate equipment near hot or burning debris or any toxic or explosive materials.

DO NOT operate equipment on slopes greater than specified in Specifications section of this manual.

ALWAYS remove spark plug wire when servicing equipment to prevent accidental starting.

ALWAYS check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

ALWAYS keep hands and feet away from moving or rotating parts.

ALWAYS store fuel in approved safety containers.

DO NOT run this machine with a cracked or damaged impeller under any circumstances.

SOUND

SOUND LEVEL 106 Db(a) at Operator Position

Sound tests were conducted in accordance with 2000/14/EC, as well as ISO 11094, and were performed on 2-16-2002 under the conditions listed below.

⚠Sound power level listed is the highest value for this model. Please refer to serial plate on the unit for the sound power level for your model.

General Conditions:	Sunny
Temperature:	60°F (15.6°C)
Wind Speed:	10 mph (16.1 kmh)
Wind Direction:	North
Humidity:	32%
Barometric Pressure:	29.95Hg (761 mm Hg)

VIBRATION DATA

VIBRATION LEVEL .74g (7.3m/s^2)

Vibration levels at the operator's handles were measured in the vertical, lateral and longitudinal directions using calibrated vibration test equipment. Tests were performed on 5-25-2006 under the conditions listed below.

General Conditions:	Sunny
Temperature:	89.06°F (31.7°C)
Wind Speed:	13.6 mph (21.96kph)
Wind Direction:	West
Humidity:	22.8%
Barometric Pressure:	29.9Hg (101.35kpa)

INTENDED USE

This machine is designed for cleaning outdoor surfaces, where the debris can be effectively blown into a consolidated area for convenient pickup and removal.
Do not operate if excessive vibration occurs. If excessive vibration occurs, shut engine off immediately and check for damaged or worn impeller, loose impeller bolt, loose impeller key, loose engine or lodged foreign objects. Note: See parts list for proper impeller bolt torque specifications. (See trouble shooting section on page 13).

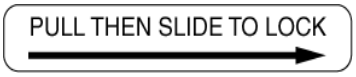
INSTRUCTION LABELS

The labels shown below were installed on your BILLY GOAT ® QB Blower. If any labels are damaged or missing, replace them before operating this equipment. Item numbers from the Illustrated Parts List and part numbers are provided for convenience in ordering replacement labels. The correct position for each label may be determined by referring to the Figure and Item numbers shown.

LABEL READ OWNERS MANUAL
ITEM #44 P/N890301

LABEL EAR EYE BREATHING
ITEM# 45 P/N890254

DANGER FLYING DEBRIS
ITEM # 46 P/N 810736



LABEL LEVER QB
ITEM #46 P/N 430363

LABEL EXPLOSIVE FUEL
ITEM # 43 P/N 400268

Quiet Blow ®
Series Blowers
TO LOCK IN MIDDLE
SLIDE LEVER TO RIGHT TO LOCK AIR DIRECTOR IN MIDDLE POSITION
TO UNLOCK
SQUEEZE THE LEVER TO UNLOCK AIR DIRECTOR FROM MIDDLE POSITION

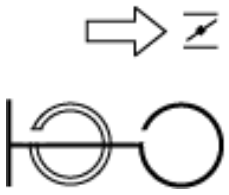
LABEL GUST CONTROL
ITEM # 7 P/N 430388

LABEL PATENT QB AIR DIRECTOR
P/N 430400

ENGINE LABELS

HONDA

READ OWNER'S MANUAL BEFORE OPERATION.
LIRE LE MANUEL D'UTILISATEUR AVANT USAGE.
VOR INBETRIEBNAHME UNBEDINGHT BEDIENUNGSANLEITUNG DURCHLESEN.
NO UTILIZAR SINANTES NO HABER LEIDO EL MANUAL
HONDA MOTOR CO., LTD. MADE IN JAPAN



PACKING CHECKLIST

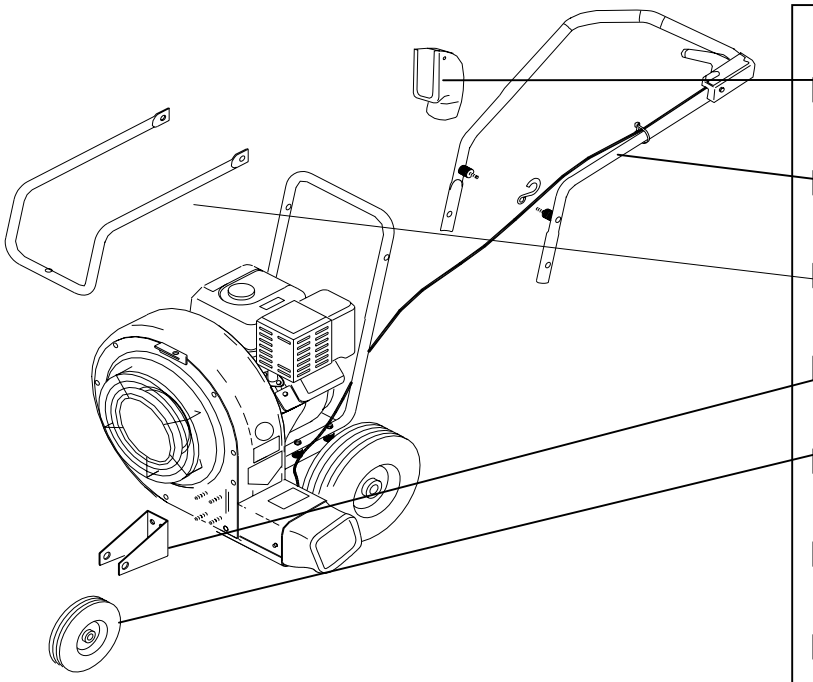
These items should be included in your carton. If any of these parts are missing, contact your dealer.
Your BILLY GOAT ® *QB Blower* was shipped in one carton, completely assembled except for the Upper Handle Assembly, Front Exhaust and Front wheel and bracket. Mounting hardware for the Upper Handle Assembly can be found in the pre mounted on the lower handle and in the parts bag.

READ all safety instructions before assembling unit.
TAKE CAUTION when removing the unit from the box the Handle Assembly is attached to the unit by cables.

PUT OIL IN ENGINE BEFORE STARTING

PARTS BAG & LITERATURE ASSY

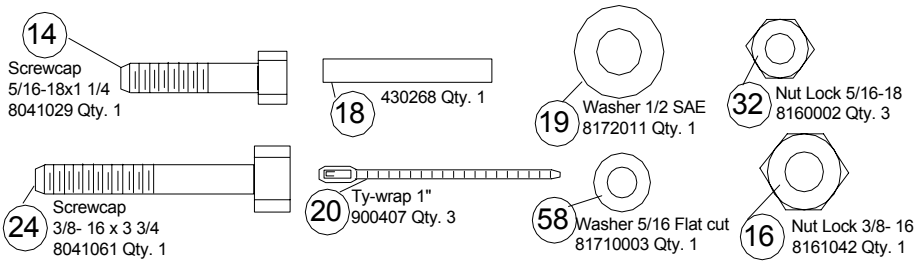
Warranty card P/N- 400972, Owner's Manual P/N-430316, Declaration of Conformity P/N-430189.



Boxing Parts Checklist

- ☐ **Front Exhaust Director P/N-430370**
- ☐ **Handle Upper Assembly P/N-400957**
- ☐ **Handle Brace P/N-400951**
- ☐ **Bracket Front P/N-430270**
- ☐ **Front wheel P/N-430271**
- ☐ **Parts Bag & Literature Assy P/N-430334**
- ☐ **Honda 5**

Parts bag assembly checklist

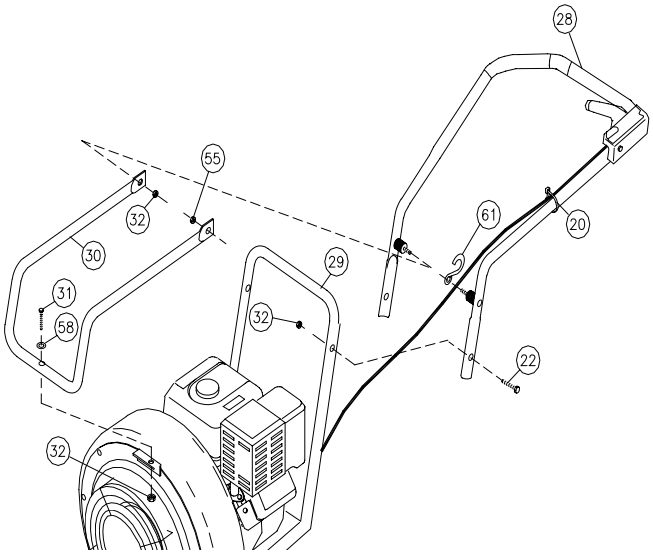


ASSEMBLY

1.Follow the steps in figures A and B, then securely tighten all hardware shown.
2.Connect spark plug wire.

Figure A

1. The hardware for attaching the upper handle to the lower is preinstalled in the proper location in the lower handle. Before the upper handle can be installed you must remove the hardware from the handle and reuse it in the same locations. Install upper handle (Item 28), to preassembled lower handle (item 29) by sliding the upper over and down the outside of the lower handle. Pull recoil handle from the engine and place it between rope guides (Item 13). Using screw & lock nut to install upper handle to lower handle. Finish installing the other side of the upper handle assembly using screw and lock nut provided.
2. Install front of handle brace (Item 30), to blower housing using one screw(Item 31), one washer (Item 58) and one lock nut (item 32) located in the hardware bag. Install rear of handle brace (item 30) to upper handle vibration mounts using two lock nuts (item 32) also located in the hardware bag. Hand tighten only.
3. Securely tighten all hardware listed above in steps 1 thru 2.

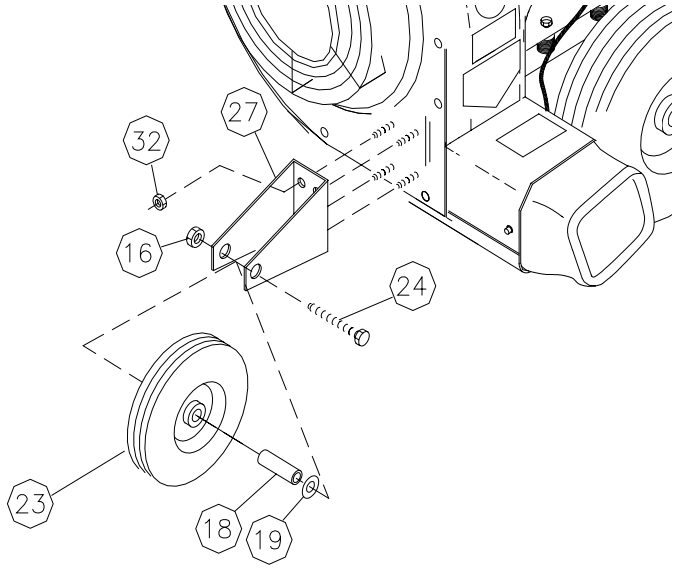


TOOLS REQUIRED

Two ½" open ended wrenches

Figure B

4. Remove four lock nuts from the front plate and use them to attach the front wheel bracket (Item 27). Using spacer (Item 18), washer (Item 19), and Lock Nut (Item 16) to attach Front wheel (Item 23) onto the front wheel bracket.
NOTE: Front wheel bracket (Item 27) should be mounted with the offset portion of the bracket toward the ground. This will place the blower exhaust parallel to the ground. The bracket can be mounted in the opposite configuration to move the blower exhaust closer to the ground.
5. When ty-wrapping the diverter cable in place please be sure to follow the correct routing of the cable as shown in Fig. 2.
6. Connect spark plug wire.



TOOLS REQUIRED

One ½ open-end wrench and two 9/16" open-ended wrenches

Fig 2.

Incorrect

Correct

OPERATION

⚠Like all mechanical tools, reasonable care must be used when operating machine.
Inspect machine work area and machine before operating. Make sure that all operators of this equipment are trained in general machine use and safety.
PUT OIL IN ENGINE BEFORE STARTING

STARTING

ENGINE: See engine manufacturer's instructions for type and amount of oil and gasoline used. Engine must be level when checking and filling oil and gasoline.

CHOKE: Operated with choke lever on side of engine.

THROTTLE: Controlled by throttle lever on the handle. Move remote throttle control to fast position. Pull start rope to start engine.

ENGINE SPEED: Under normal conditions, operate at minimum throttle to accomplish your current cleaning task.

SHUTDOWN: Move throttle lever on the engine slowly to the stop position
IF YOUR UNIT FAILS TO START:
See Troubleshooting on page 13.

HANDLING & TRANSPORTING:

Using two people to lift machine is recommended. Lift holding the handle and handle brace. Secure in place during transportation. See QB specifications on page 3 for unit weight.

⚠ Do not use the front grill as an anchor point when securing the unit for transport.

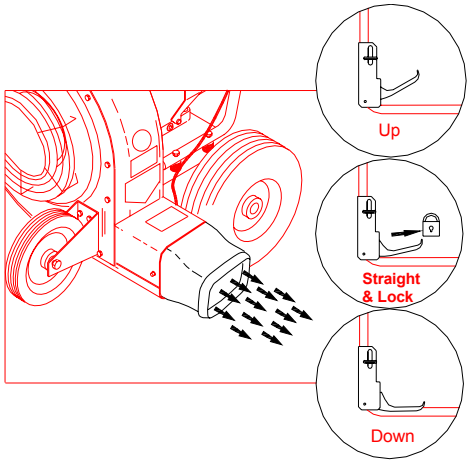
⚠ Never lift the machine while the engine is running.

BLOWING OPERATION

Your Billy Goat QB blower is equipped with an exhaust director to allow the operator to direct the air stream up or down as required to assist in moving debris. This feature is extremely useful when debris has piled up to the point that it cannot be blown any farther. The air stream can be directed upward to blow the top of the debris pile over and allow the operator to continue moving more debris farther.

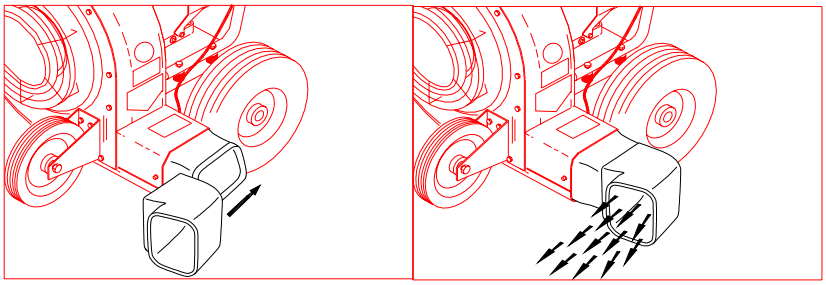
ADJUSTING GUST EXHAUST

Releasing the lever allows air to be directed upward during use to avoid blowing debris into cars or other structures, or to avoid blowing landscaped areas that would be damaged by the high-speed air. This position also allows operator to maneuver the machine relative to the work area without disturbing the debris. When the lever is over halfway back and in lock position this will direct the air parallel to the ground for the majority of blowing operations. The hand control allows the operator to lock the air stream in this straight out position. To **LOCK** the air in position simply pull back on the lever and pull the lever sideways to the right until the lock engages. See instruction label on the control. With the lever fully drawn to the handle, this position directs the air stream down at the ground to allow the operator to deliver the maximum power to debris that is stuck or difficult to remove. This position is also very useful for cleaning out cracks and expansion joints in pavement.



FRONT DISCHARGE POSITION

The removable front discharge adapter can be slipped on to direct the air stream forward. This option is extremely useful for cleaning out long cracks in pavement or for cleaning under bushes or building overhangs.



ADJUSTING

When you lock the lever, the default position of air director is in the middle or straight out. If you want to raise or lower air director lock position you must adjust the threaded fitting on the cable. **Note:** You will not get full range of motion of air director If you raise or lower default locking position.
TO RAISE, 1. Lock the air director in place at the handle by pulling on the lever then slide it over to right. 2. Loosen the top nut on the threaded cable fitting until the air director position is satisfactory. 3. Tighten the bottom nut.
TO LOWER, 1. Lock the lever at the handle by pulling on the lever then slide it over to right. 2. Loosen the bottom nut on the threaded cable fitting and back it off 1/4 inch. 3. Pull the threaded cable fitting up while pushing down on the air director then check for air director position. 4. Loosen or tighten the same bottom nut then repeat step 3 until the air director position is satisfactory. 5. Tighten the top nut

MAINTENANCE

PERIODIC MAINTENANCE

Periodic maintenance should be performed at the following intervals:

Maintenance Operation	Every Use	Daily or Every 5 Hours	Every 25 Hours	Every 50 Hours	Every 100-150 Hours
Inspect for worn or damaged parts.		●			
Check for excessive vibration	●				
Inspect Impeller for cracks or damage					●
Engine (See Engine Manual)	●				
Lubricate wheels			●		
Inspect for loose parts.		●			

IMPELLER REMOVAL

1. Wait for engine to cool and disconnect spark plug.
2. Remove front wheel (item 23),and front wheel bracket (item 27).
3. Remove housing front plate (item 4), by removing nine (9) screws (item 12), around outside of front plate.
4. Remove impeller bolt and lock washer.
5. Pull on center hub backplate area only of impeller. If impeller slides off freely, proceed to (step 8).
6. Place two crowbars between center hub backplate area of impeller and housing on opposite sides. Carefully pry impeller away from engine until it loosens. *Using a penetrating oil can help loosen a stuck impeller.*
7. If the impeller does not loosen, obtain a 1" (25.4mm) longer bolt of the same diameter and thread type as the impeller bolt. Thread longer bolt by hand into the crankshaft until bolt bottoms. Using a suitable gear or wheel puller against the bolt head and the impeller back-plate (near the blades), remove impeller from shaft.
8. Reinstall new impeller in reverse order of removal.
9. Tighten impeller bolt. Torque impeller bolt (see parts list on page 15 for proper impeller bolt torque specifications).

TIRE AIR PRESSURE

Check at regular intervals and maintain.
Front Tires - 50 Psi (344 kPa).
Rear Tires - 24 Psi (165 kPa).

STORAGE

⚠Never store engine indoors or in enclosed poorly ventilated areas with fuel in tank, where fuel fumes may reach an open flame, spark or pilot light, as on a furnace, water heater, clothes dryer or other gas appliance.
If engine is to be unused for 30 days or more, prepare as follows:
⚠Remove all gasoline from carburetor and fuel tank to prevent gum deposits from forming on these parts and causing possible malfunction of engine. Drain fuel outdoors, into an approved container, away from open flame. Be sure engine is cool. Do not smoke. Run engine until fuel tank is empty and engine runs out of gasoline.

NOTE Fuel stabilizer (such as Sta-Bil ™) is an acceptable alternative for minimizing the formation of gum deposits during storage. Add stabilizer to gasoline in storage container or fuel tank. Follow stabilizer manufacturer's instructions to determine proper mix ratio. Run engine at least 10 minutes after adding stabilizer to allow it to reach carburetor.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Abnormal vibration.	· Loose or out of balance impeller. · Loose engine.	· Check impeller and replace if required. · Check engine.
Engine will not start.	· Engine not in full choke position. · Out of gasoline or bad, old gasoline. · Spark Plug wire disconnected. · Gas valve off. · Dirty air cleaner.	· Check choke position. · Check gasoline. · Connect spark plug wire. · Turn on gas valve. · Clean or replace air cleaner. Contact a qualified service person.
Engine is locked, will not pull over.	· Engine problem.	· Contact an engine servicing dealer for engine problems.

When servicing engine refer to specific manufacturers engine owner's manual. Engine warranty is covered by the specific engine manufacturer. If your engine requires warranty or other repair work contact your local servicing engine dealer. When contacting a dealer for service it is a good idea to have your engine model number available for reference (See table page 3). If you cannot locate a servicing dealer in your area you can contact the manufacturers national service organization.
To reach:

American Honda: 800-426-7701

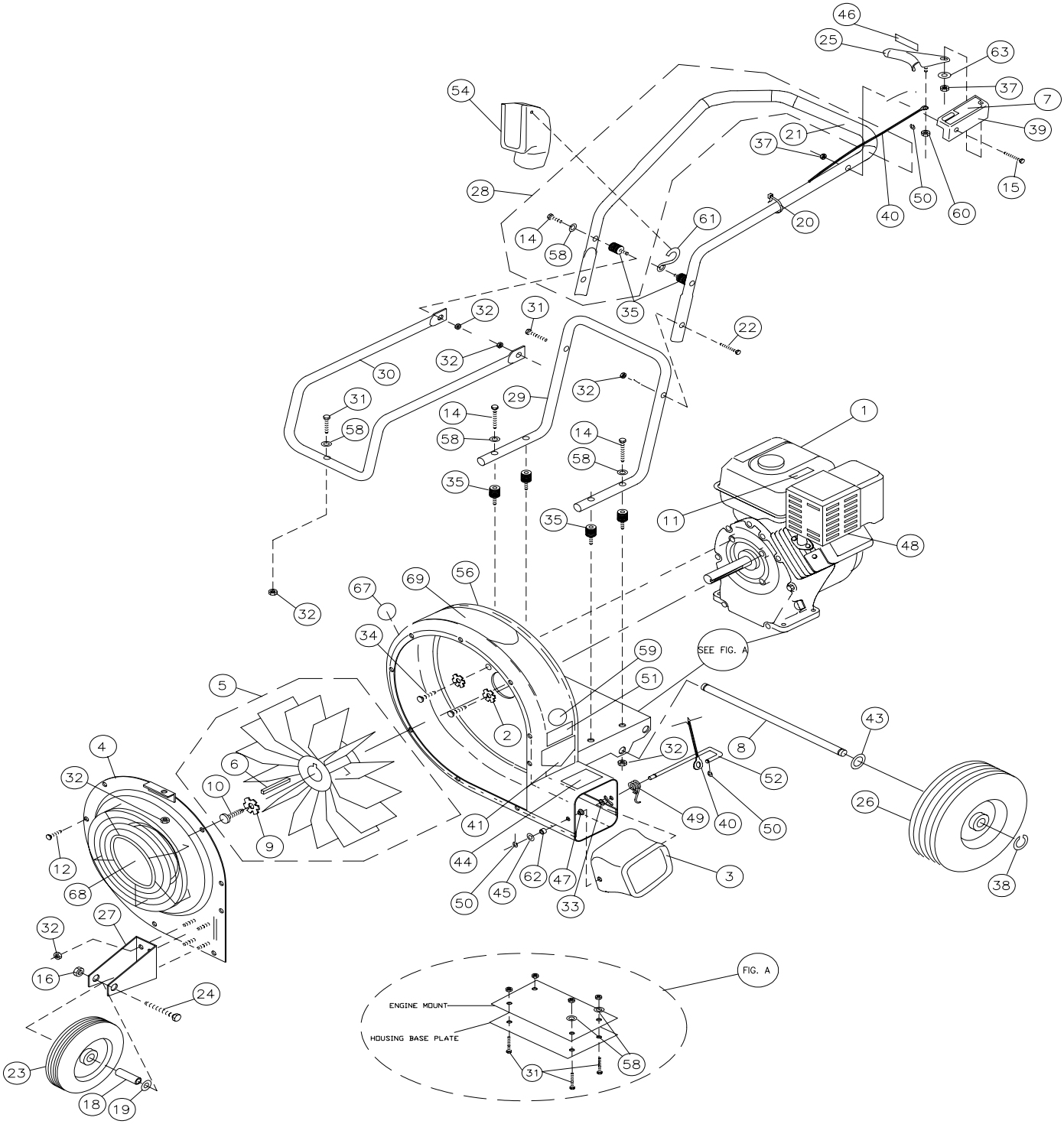
WARRANTY CLAIM PROCEDURE

Should a BILLY GOAT ® machine fail due to a defect in material and/or workmanship, the owner should make a warranty claim as follows:

- The machine must be taken to the dealer from whom it was purchased or to an authorized Servicing BILLY GOAT Dealer.
- The owner must present the remaining half of the Warranty Registration Card, or, if this is not available, the invoice or receipt.
- The Warranty Claim will be completed by the authorized BILLY GOAT Dealer and submitted to their respective BILLY GOAT Distributor for their territory Attention: Service Manager. Any parts replaced under warranty must be tagged and retained for 90 days. The model number and serial number of the unit must be stated in the Warranty Claim.
- The distributor service manager will sign off on the claim and submit it to BILLY GOAT for consideration.
- The Technical Service Department at BILLY GOAT will study the claim and may request parts to be returned for examination. BILLY GOAT will notify their conclusions to the distributor service manager from whom the claim was received.
- The decision by the Technical Service Department at BILLY GOAT to approve or reject a Warranty Claim is final and binding.

For online product registration go to www.billygoat.com

ILLUSTRATED PARTS LIST



PARTS LIST

ITEM	DESCRIPTION	QB554HC	
		PART NO	QTY
1	ENGINE - 5.0 HP HONDA	430272	1
2	WASHER LOCK 5/16 TWISTED TOOTH	800177	2
3	GUST DIRECTOR QB	430369	1
4	PLATE FRONT & GRILL ASSY	430182	1
5	IMPELLER ASS'Y	430276	1
6	KEY SQUARE 3/16 x 1 3/4"	9201084	1
7	LABEL CONTROL QB HONDA	430388	1
8	AXLE	430181	1
9	WASHER LOCK 7/16 TWISTED TOOTH	850132	1
10	SCREW CAP 5/16-24 x 1-1/4 GR. 8 (TORQUE 31 FT LBS)(42 N.m)	400389	1
11	LABEL DO NOT FILL WHEN ENGINE IS HOT	400268	1
12	SHEET METAL SCREW 1/4 x 3/4 DRILL POINT	430208	9
14	SCREW CAP 5/16-18 x 1 - 1/4	*8041029	7
15	SCREW CAP 1/4 -20 x 2	*8041010	1
16	NUT LOCK 3/8 -16 THN HEIGHT	*8161042	1
18	SPACER 1/2 OD x 3.062"	430268	1
19	WASHER 1/2 SAE	8172011	1
20	CABLE TY	900407	3
21	GRIP	430342	2
22	SCREW CAP 5/16-18 X 2½	*8041034	1
23	WHEEL &TIRE ASSY 8" PNEU	430271	1
24	SCREW CAP, (FRONT AXLE) 3/8-16 x 3 3/4"	*8041061	1
25	CONTROL LEVER QB	430332	1
26	WHEEL, REAR	400295	2
27	BRACKET (FRONT WHEEL)	430270	1
28	HANDLE UPPER ASS'Y (incl. items 14(2), 25, 35(2), 46, 58(2)	430335	1
29	HANDLE LOWER	400950	1
30	HANDLE- BRACE	400951	1
31	SCREW CAP 5/16 -18 x 1¾	*8041031	5
32	NUT LOCK , 5/16-18 HEX	*8160002	15
33	BUSHING PIVOT BACK	430323	1
34	SCREW CAP 5/16 -24 NF x 3/4" GR. 5	*8042026	2
35	VIBRATION MOUNT	400173	6
36	PARTS BAG ASS'Y (INCL ITEMS 32(5), 58 (1), 15(1), 37(1), 20(3), 17(3)	430255	1
37	NUT LOCK 1/4 - 20 HEX	*8160001	2
38	RING RETAINING ¾	850230	2
39	BRACKET CONTROL BOX WA QB	430328	1
40	CABLE GUST CONTROL QB	430418	1
41	LABEL DANGER HANDS & FEET	400424	1
43	WASHER - FLAT 3/4 S.A.E. (3/16 x 1-1/2 x 1/8)	*8172015	2
44	LABEL DANGER FLYING MATERIAL	810736	1
45	WASHER 1/4 SAE	*8171002	1
46	LABEL LEVER QB	430363	1
47	BUSHING PIVOT FRONT	430349	1
48	GUARD MUFFLER (COMES W/ ITEM 1)	YES	-
49	SPRING PIVOT EXHAUST	430326	1
50	RING RETAINER 5/16"	430327	3
51	LABEL EAR EYE BREATING	890254	1
52	WIRE PIVOT QB EXHAUST	430396	1
54	DEFLECTOR FRONT EXHAUST QB	430370	1
56	FRAME ASS'Y (INCLUDES 41, 44, 51, 59)	430374	1
58	WASHER FLAT CUT 5/16 (3/8 ID x 7/8 OD x1/16)	*8171003	12
59	LABEL READ OWNER'S MANUAL	890301	1
60	NUT PAL 1/4	430409	1
61	WIRE MOUNT DIRECTOR	430391	1
62	SPACER PIVOT WIRE	430390	1
63	WASHER FLAT FENDER 5/16"	8172020	1
67	STEELMARK LABEL	830113	1
68	BILLY GOAT LABEL CIRCLE	430303	1
69	BILLY GOAT LABEL OVAL	430304	1

MAINTENANCE RECORD

Date	Service Performed